

Application No.: 10/632,638
Amendment Dated: June 23, 2004
Attorney Docket No.: 12553/106

AMENDMENTS TO THE CLAIMS

1-18 (Cancelled)

19. (Previously Amended) A method of driving voltage for at least one of two pieces of piezoelectric element of an actuator and two active parts in each piezoelectric element, the voltage causes in at least one of said two pieces the two active parts to expand and contract at the same time, respectively, while the direction of the driving voltages preserves the poling directions of the corresponding pieces or parts to prevent depoling of the piezoelectric element, the method comprising:

applying voltages on electrodes of at least one of said two pieces or two parts as two opposing phase AC signals added to a positive DC bias that has a same direction as a poling vector of at least one of said pieces or parts, where the bias is larger than or equal to an amplitude of the AC signal.

20. (Cancelled)

21. (Previously Presented) The method of claim 19, wherein polarization vectors are in the same direction for said two pieces or two parts.

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22. (Previously Presented) The method of claim 19, wherein polarization vectors are in the opposite directions for said two pieces or two parts.

23. (Previously Presented) The method of claim 22, further comprising applying half the voltages applied to an actuator in which two pieces of piezoelectric element have polarization vectors in the same direction.

24. (Previously Presented) The method of claim 19, wherein at least one of said two pieces of piezoelectric elements of said actuator is C shaped.

25. (Previously Presented) The method of claim 19, wherein at least one of said two pieces of piezoelectric elements of said actuator is S shaped.

26. (Previously Presented) The method of claim 19, further comprising generating synchronous rotation.

27. (Previously Presented) The method of claim 19, wherein the actuator has more than two pieces of piezoelectric element.